

### REMARKS

Applicant respectfully requests reconsideration. Claims 1-31 were previously pending in this application with claims 32-35 being withdrawn. Claim 1 has been amended; claims 17 and 32-35 have been cancelled; and, claims 36 and 37 have been added. No new matter has been added. Claims 1-16, 18-31 and 36-37 are now pending for examination.

#### Rejection of Claims 1, 2, 9, and 21-30 over Kogan in view of Dubreuil

Claims 1, 2, 9, and 21-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,529,660 (Kogan) in view of *Introduction to Fluorescence in Fiber Recycling* (Dubreuil).

Claim 1 has been amended to include the recitation of claim 17 which does not stand rejected on this ground because the combination of Kogan and Dubreuil does not teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero after the step of adding chlorine dioxide solution. Because each claim limitation is not taught or suggested by the combination of Kogan and Dubreuil, claim 1 is patentable over this combination. The remaining claims that stand rejected on this ground depend from claim 1 and are, thus, also patentable over the combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

#### Rejection of Claim 3 over Kogan and Dubreuil in view of Hossain

Claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan and Dubreuil in further view of U.S. Patent No. 3,354,027 (Hossain).

Claim 3 depends from claim 1. Claim 1 is patentable over the combination of Kogan and Dubreuil for reasons noted above. Hossain fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, Hossain fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero. Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and Hossain combination, claims 1 and 3 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejection on this ground.

Rejection of Claim 4 over Kogan, Dubreuil, and Hossain in view of De Ceuster

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan, Dubreuil, and Hossain in further view of U.S. Patent No. 4,347,099 (De Ceuster).

Claim 4 depends from claim 1. Claim 1 is patentable over the combination of Kogan, Dubreuil and Hossain for reasons noted above. De Ceuster fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, De Ceuster fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero. Because each claim limitation is not taught or suggested by the Kogan, Dubreuil Hossain and De Ceuster combination, claims 1 and 4 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejection on this ground.

Rejection of Claims 5 and 6 over Kogan and Dubreuil in view of Dence

Claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan and Dubreuil in further view of *Pulp Bleaching Principles and Practice* (Dence).

Claims 5 and 6 depend from claim 1. Claim 1 is patentable over the combination of Kogan and Dubreuil for reasons noted above. Dence fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, Dence fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero. Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and Dence combination, claims 5 and 6 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

Rejection of Claims 7-8 and 15-16 over Kogan and Dubreuil in view of Gupta

Claims 7-8 and 15-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan and Dubreuil in further view of U.S. Patent No. 4,244,777 (Gupta).

Claims 7-8 and 15-16 depend from claim 1. Claim 1 is patentable over the combination of Kogan and Dubreuil for reasons noted above. Gupta fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, Gupta fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero. Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and Gupta combination, claims 7-8 and 15-16 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

Rejection of Claims 10 and 13-14 over Kogan and Dubreuil in view of Hankins

Claims 10 and 13-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan and Dubreuil in further view of U.S. Patent No. 5,755,926 (Hankins).

Claims 10 and 13-14 depend from claim 1. Claim 1 is patentable over the combination of Kogan and Dubreuil for reasons noted above. Hankins fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, Hankins fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero. Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and Hankins combination, claims 10 and 13-14 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

Rejection of Claims 17-19 over Kogan and Dubreuil in view of GB 1 396 139

Claims 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan and Dubreuil in further view of GB 1 396 139 (GB '139).

Claim 1 has been amended to include the recitation in claim 17 and claim 17 has been cancelled, so Applicant is addressing the patentability of claim 1 with respect to this rejection. The Office Action suggests that GB '139 treats waste paper pulp with sodium hydroxide after the step of

adding chlorine dioxide solution and suggests that this would reduce provide an oxidation reduction potential of less than or equal to zero as claimed. However, it is noted that the “second phase” in which NaOH is added in GB ‘139 (page 3, Col. 2, lines 39-46), follows a “first phase” in which *chlorine gas* solution (i.e.,  $\text{Cl}_2/\text{H}_2\text{O}$ ) is added (page 3, Col. 1, lines 30-38), rather than *chlorine dioxide* (i.e.,  $\text{ClO}_2$ ) as claimed. (Emphasis added). Thus, GB ‘139 does not teach the step of adding sodium hydroxide after adding chlorine dioxide solution. In fact, GB ‘139 fails to teach any step that would adjust the oxidation reduction potential to a value of less than or equal to zero after adding a chlorine dioxide solution as claimed.

Moreover, even if GB ‘139 did disclose adding NaOH after chlorine dioxide, this still would not teach or suggest the claimed step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero after adding chlorine dioxide solution.

Furthermore, Applicant respectfully disagrees that one of ordinary skill in the art would have been motivated to combine Kogan, Dubreuil and GB ‘139 in the manner stated in the Office Action. In particular, Applicant sees no motivation in the references to combine the teaching of GB ‘139 with the Kogan and Dubreuil combination.

Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and GB ‘139 combination and one of ordinary skill in the art would not have been motivated to combine the teachings in these references, claims 1 and 18-19 are patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

#### Rejection of Claim 20 over Kogan, Dubreuil, and GB ‘139 in view of Sparrow

Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kogan, Dubreuil, and GB ‘139 in further view of U.S. Patent No. 2,958,622 (Sparrow).

Claim 20 depends from claim 1. Claim 1 is patentable over the combination of Kogan, Dubreuil for reasons noted above. Sparrow fails to provide the deficiency of the Kogan and Dubreuil combination with respect to claim 1. Specifically, Sparrow fails to teach or suggest the step of adjusting the oxidation reduction potential of the mixture to a value of less than or equal to zero.

Furthermore, Applicant respectfully disagrees that one of ordinary skill in the art would have been motivated to combine Kogan, Dubreuil and Sparrow in the manner stated in the Office Action. In particular, Applicant sees no motivation in the references to combine the teaching of Sparrow with the Kogan and Dubreuil combination.

Because each claim limitation is not taught or suggested by the Kogan, Dubreuil and Sparrow combination and one of ordinary skill in the art would not have been motivated to combine the teachings in these references, claim 20 is patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejection on this ground.

Rejection of Claim 31 Under 35 U.S.C. 102(b) or in the Alternative Under 35 U.S.C. §103(a)

Claim 31 rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Kogan.

Claim 31 has been amended to recite the method steps of original claim 1 and to further recite that the article has a fluorescence component of brightness of equal to zero and has essentially no phosphorescence activity. Kogan fails to teach or suggest such an article. In particular, Kogan fails to teach the lack of phosphorescence activity. There is no reason to believe that the article produced by Kogan would have this feature. Because each claim limitation is not taught or suggested by Kogan, claim 31 is patentable over this combination.

Accordingly, Applicant respectfully requests withdrawal of the claim rejections on this ground.

New Claims


Claims 36 and 37 have been added. Claim 36 is somewhat similar to certain recitations in claim 22 which stands rejected in view of Kogan and Dubreuil. However, new claim 36 recites that the chlorine dioxide solution interacts with the fluorescent agents to reduce fluorescent activity to an extent such that the pulp sheet has a fluorescence component of brightness of less than about 0.2%.

In connection with the rejection of claim 22 and others, the Office Action points to the fluorescence component of brightness index values disclosed in Kogan. Applicant notes that the

0.17 fluorescence index value disclosed in Kogan is in connection with a sample that was washed between ozone cycles. The lowest value disclosed in Kogan in connection with a bleaching step with a chlorine-based compound was 0.32 which is above the claimed range (Table 3). Moreover, Kogan emphasizes that the dual-stage ozone process reduces fluorescent activity (e.g., See Abstract), rather than use of a chlorine dioxide solution. Even if chlorine dioxide was used in Kogan's bleaching step, there is no reason to believe that the fluorescence component of brightness of less than about 0.2% as recited in claim 36. None of the other references of record teach or suggest the limitation that chlorine dioxide solution interacts with the fluorescent agents to reduce fluorescent activity to an extent such that the pulp sheet has a fluorescence component of brightness of less than about 0.2%. Therefore, each limitation of claim 36 is not taught or suggested by any combination of the cited references. Claim 36, and its dependent claim 37, are patentable over the cited references for at least this reason.

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Respectfully submitted,

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